CLAIM

1. A disk cartridge comprising:

a disk;

a case for accommodating the disk, and including an arc-shaped surface formed at an insertion direction side of a holder, and side surfaces continuing both ends of the arc-shaped surface and respectively formed as direct lines at the insertion direction;

a light transparent aperture formed contiguous with one side surface of the side surface and input laser beam;

an insertion groove formed between the arc-shaped surface and a portion at an ejection direction side than that of the light transparent aperture in the one side; and

a function expansion groove formed between the arc-shaped surface and a continuous portion of the arc-shaped surface and another side surface.

2. A disk cartridge as set forth in claim 1, further comprising a shutter slidably mounted on the one side surface and opening or closing the light transparent aperture,

when inserting it into the holder, a shutter opening piece formed on the holder being inserted into

the insertion groove and the shutter opening piece being contacted with the shutter to thereby slide and move the shutter.

3. A disk cartridge drive apparatus comprising:

a holder inserted a disk cartridge therein and holding the same, the disk cartridge including:

a disk, a case for accommodating the disk, and including an arc-shaped surface formed at an insertion direction side of a holder, and side surfaces continuing both ends of the arc-shaped surface and respectively formed as direct lines at the insertion direction, a light transparent aperture formed contiguous with one side surface of the side surface and input laser beam, an insertion groove formed between the arc-shaped surface and a portion at an ejection direction side than that of the light transparent aperture in the one side, and a function expansion groove formed between the arc-shaped surface and a continuous portion of the arc-shaped surface and another side surface; and

a shutter opening piece provided at a position opposed to the side surface of the disk cartridge, in the holder,

when the disk cartridge is inserted into the holder, if the shutter opening piece is inserted into the insertion groove, the shutter opening piece being moved

to a portion of the ejection direction side of the insertion groove, and if the shutter opening piece is inserted into the function expansion groove, the shutter opening piece being contacted with an aperture edge of the function expansion groove formed at the continuous portion to thereby prevent the insertion of the disk cartridge into the holder.

4. A disk cartridge drive apparatus as set forth in claim 3, further comprising a posture holding piece provided at an insertion direction side than the shutter opening piece of the holder, for holding a posture of the disk cartridge in the holder when the posture holding piece is inserted into the insertion groove.

5. A disk cartridge drive apparatus as set forth in claim 3, wherein the holder inserts a disk cartridge with a shutter, said disk cartridge having a disk, a case for accommodating the disk, and including an arc-shaped surface formed at an insertion direction side of a holder, and side surfaces continuing both ends of the arc-shaped surface and respectively formed as direct lines at the insertion direction, a light transparent aperture formed contiguous with one side surface of the side surface and input laser beam, a shutter slidably mounted on the one side surface and opening or closing the light transparent aperture, an insertion groove formed between the arc-

shaped surface and a portion at an ejection direction side than that of the light transparent aperture in the one side, and a function expansion groove formed between the arc-shaped surface and a continuous portion of the arc-shaped surface and another side surface.

6. A disk cartridge drive apparatus comprising:

a holder inserting and holding a disk cartridge having a disk, a case for accommodating the disk, and including an arc-shaped surface formed at an insertion direction side of a holder, and side surfaces continuing both ends of the arc-shaped surface and respectively formed as direct lines at the insertion direction, a light transparent aperture formed contiguous with one side surface of the side surface and input laser beam, an insertion groove formed between the arc-shaped surface and a portion at an ejection direction side than that of the light transparent aperture in the one side, and a function expansion groove formed between the arc-shaped surface and a continuous portion of the arc-shaped surface and another side surface;

a shutter opening piece provided at a position opposed to the side surface of the disk cartridge; and

a recording/reproducing means for executing a recording a data to, and/or, a reproducing a data from the disk accommodated in the disk cartridge held in the

holder,

when the disk cartridge is inserted into the holder, if the shutter opening piece is inserted into the insertion groove, the shutter opening piece being moved to a portion of the ejection direction side of the insertion groove, and if the shutter opening piece is inserted into the function expansion groove, the shutter opening piece being contacted with an aperture edge of the function expansion groove formed at the continuous portion to thereby prevent the insertion of the disk cartridge into the holder.

7. A disk cartridge drive apparatus as set forth in claim 6, further comprising a disk table mounting the disk,

when the disk cartridge is inserted into the holder, if the shutter opening piece is inserted into the insertion groove, the shutter opening piece being moved to a portion of the ejection direction side of the insertion groove to be mounted the disk on the disk table, and if the shutter opening piece is inserted into the function expansion groove, the shutter opening piece being contacted with an aperture edge of the function expansion groove formed at the continuous portion to thereby prevent the insertion of the disk cartridge into the holder.

8. A recording medium drive device (6) which can be loaded with a recording medium cartridge (100, 300) rotatably accommodating a disk-shaped recording medium (200, 400) therein, wherein

said recording medium cartridge has, in planar shape, a semi-circular portion and a substantially rectangular portion contiguous with the semi-circular portion,

said semi-circular portion has a first arc surface (101a) following along the planar shape of said disk-shaped recording medium and accommodates substantially half of said recording medium,

said substantially rectangular portion has parallel sides (101b) contiguous with ends of said semi-circular portion and a second arc surface (101d) connecting the two ends of the sides and having a larger curvature than said first arc surface (101a),

a function expansion groove (104) is provided at said arc surface (101a) of said semi-circular portion in the vicinity of at least one side of said substantially rectangular portion,

an opening (101h) for recording information from the recording medium drive device onto said recording medium or reading information recorded on said recording medium is provided in said semi-circular portion or said

substantially rectangular portion,

said recording medium drive device has

a chassis (7),

a holder (8) which is provided so that it can be opened or closed using one end of the chassis (7) as a pivot (10) and enables insertion or ejection of said recording medium cartridge with respect to said chassis (7) when in the open state,

a recording/reading means (18) for recording information onto said recording medium (200) or reading information from said recording medium via said opening of said recording medium cartridge when said recording medium cartridge is inserted into said holder (8), and

a projection (32d) engaging with said function expansion groove (104) provided at said arc surface (101a) of said recording medium cartridge to prevent erroneous insertion of said recording medium cartridge when said recording medium cartridge (100, 30) is inserted into said holder (8) in a backward direction.

9. An electronic apparatus provided with a recording medium drive device (6) which can be loaded with a recording medium cartridge (100, 300) rotatably accommodating a disk-shaped recording medium (200, 400) therein, wherein

said electronic apparatus has

a main body and

an outer housing (2) which can be freely opened or closed with respect to said main body,

said recording medium drive device is accommodated in a recess of said main body,

said disk-shaped recording medium has

a chassis (7),

a holder (8) which is provided so can be opened or closed using one end of the chassis (7) as a pivot (10) and enables insertion or ejection of said recording medium cartridge when it is opened with respect to said chassis (7), and

a recording/reading means (18) for recording information onto said recording medium (200) or reading information from said recording medium via said opening of said recording medium cartridge when said recording medium cartridge is inserted into said holder (8),

said holder (8) of said disk-shaped recording medium accommodated in said recess is configured so as to be opened with respect to said chassis (7) in response to the opening/closing of said outer housing (2) and enables insertion said recording medium cartridge into said holder (8) or ejection of the recording medium cartridge from said holder (8),

said recording medium cartridge has, in planar

shape, a semi-circular portion and an substantially rectangular portion contiguous with the semi-circular portion, said semi-circular portion has a first arc surface (101a) following along the planar shape of said disk-shaped recording medium and accommodates substantially half of said recording medium, said substantially rectangular portion has parallel sides (101b) contiguous with ends of said semi-circular portion and a second arc surface (101d) connecting the two ends of the sides and having a larger curvature than said arc surface (101a), a function expansion groove (104) is provided in the vicinity of at least one said side of said substantially rectangular portion of said arc surface (101a) of said semi-circular portion,

an opening (101h) for recording information from the recording medium drive device onto said recording medium or reading information recorded on said recording medium is provided in said semi-circular portion or said substantially rectangular portion, and

provision is further made of a projection (32d) engaged with said function expansion groove (104) provided in said arc surface (101a) of said recording medium cartridge and suppressing erroneous insertion of said recording medium cartridge when said recording medium cartridge (100, 300) is inserted into said holder

(8) upside down.

10. A recording medium drive device (6) able to be loaded with a recording medium cartridge (100) including a case (101) on which is slidably supported a shutter (110) for opening or closing an opening (101h) for recording information onto a disk-shaped recording medium (200) or reading information recorded on said recording medium, in which is formed a function expansion groove (104), and in which said recording medium is accommodated,

recording medium drive device provided with:

a holder (8) for holding said recording medium cartridge when said recording medium cartridge (100) is inserted and

a shutter opening piece (32d) provided in said holder (8), which shutter opening piece slides said shutter (110) supported upon the case (101) of said recording medium cartridge to open said opening (101h) when said recording medium cartridge (100) is normally inserted into said holder (8) and strikes the opening edge of said function expansion groove (104) of said case (101) of said recording medium cartridge when said recording medium cartridge (100) is inserted into said holder (8) in an erroneous direction to prevents erroneous insertion of said recording medium cartridge into said holder (8).

11. A recording medium cartridge comprised of a flat case (101) in which a disk-shaped recording medium is rotatably accommodated and used mounted on a holder (8) of a recording medium drive device (6) provided with a holder (8) having a shutter opening piece (32d), wherein:

the surface on the insertion direction (A) side of said case to said holder of said recording medium drive device is formed as a substantially arc surface of an arc state having a center angle of substantially 180°,

the two surfaces contiguous with the two ends of said arc surface are formed as straight sides,

said arc surface of said case is formed with a function expansion groove (104) for expanding the function as a recording medium cartridge,

said case is formed with an opening (101h) for establishing a signal path for recording information onto said disk-shaped recording medium or reading information recorded on said recording medium at a position nearer one side,

an opening edge (104a) of an eject direction (B) side of the function expansion groove opposite to said insertion direction (A) is located at a connecting portion of the other side located opposite to the one side and the arc surface, and

when said recording medium cartridge is inserted

into said holder of said recording medium drive device in an erroneous direction, the opening edge (104a) of said function expansion groove of said case contacts the shutter opening piece (32d) of the recording medium drive device to prevent erroneous insertion into the holder.

12. A recording medium cartridge (100, 300) rotatably accommodating a disk-shaped recording medium (200, 400) and used loaded in a recording medium drive device, wherein

said recording medium cartridge has, in its planar shape, a semi-circular portion and a substantially rectangular portion contiguous with the semi-circular portion,

said semi-circular portion has a first arc surface (101a) following along the planar shape of said disk-shaped recording medium and accommodates substantially half of said recording medium,

said substantially rectangular portion has parallel sides (101b) contiguous with ends of said semi-circular portion and a second arc surface (101d) connecting the two ends of said sides and having a larger curvature than said first arc surface (101a),

a function expansion groove (104) is provided in the arc surface of said semi-circular portion (101a) in the vicinity of at least one side of said substantially

rectangular portion,

an opening (101h) for recording information from said recording medium drive device onto said recording medium or reading information recorded on said recording medium is provided in said semi-circular portion or said substantially rectangular portion, and,

when said recording medium cartridge (100, 30) is inserted into said holder in the upside-down direction, a projection (32d) provided on said holder (8) is engaged with said function expansion groove (104) provided in said arc surface (101a) of said recording medium cartridge to prevent the erroneous insertion of said recording medium cartridge.